

Abstract

An electroosmotic pump and method of manufacturing thereof. The pump having a porous structure adapted to pump fluid therethrough, the porous structure comprising a first side and a second side, the porous structure having a plurality of fluid channels therethrough, the first side having a first continuous layer of electrically conductive porous material deposited thereon and the second side having a second continuous layer of electrically conductive porous material deposited thereon, the first second layers coupled to a power source, wherein the power source supplies a voltage differential between the first layer and the second layer to drive fluid through the porous structure at a desired flow rate. The continuous layer of electrically conductive porous material is preferably a thin film electrode, although a multi-layered electrode, screen mesh electrode and beaded electrode are alternatively contemplated. The thickness of the continuous layer is in range between and including 200 Angstroms and 10,000 Angstroms.